

In the Matter of

Petition for Waiver of Certain Part 80 Rules
Concerning Iridium's Provision of GMDSS

I. INTRODUCTION

Iridium seeks these waivers in order to promote competition in the GMDSS service beginning in 2020 by confirming the right of vessel operators to choose the GMDSS equipment that they install on their vessels. These waivers would advance the underlying purposes of the FCC’s rules consistent with the action of the International Maritime Organization (“IMO”) and the approved amendment of the International Convention for the Safety of Life at Sea (“SOLAS”).

II. BACKGROUND ON IRIDIUM AND GMDSS

A. Iridium

Iridium is the only commercial provider of communications services offering true global coverage, connecting people, organizations, and assets to and from anywhere, in real time.¹

Iridium's unique L-band satellite network provides reliable communications services to regions of the world where terrestrial wireless or wireline networks do not exist or are limited, including remote land areas, open ocean, airways, the polar regions, and regions where the telecommunications infrastructure has been affected by political conflicts or natural disasters. The Iridium network is resilient, robust, and already a trusted provider of safety and security services in the maritime, aviation, land, government, and IoT markets. Iridium provides voice and data communications services to businesses, the U.S. and foreign governments, non-governmental organizations, and consumers via its satellite network, which has an architecture of 66 operational satellites with in-orbit and ground spares and related ground infrastructure. In February 2019, Iridium completed the replacement of its first-generation satellites with the Iridium® NEXT satellite constellation, which supports higher data speeds for new products and services.

B. Current State of GMDSS Service

GMDSS is a maritime service built to alert a rescue coordination center of each vessel's situation and position information, which can then be used to coordinate search and rescue efforts among ships in the area.² GMDSS service is also used to distribute important

¹ Iridium Communications Inc., Quarterly Report (Form 10-Q) at 19 (Jul. 23, 2019), <https://www.sec.gov/ix?doc=/Archives/edgar/data/1418819/000141881919000015/irdm10-q063019.htm>.

² See IMSO, *The Global Maritime Distress and Safety System (GMDSS)*, <http://imso.org/public/GMDSS>.

navigational and meteorological information to vessels.³ GMDSS establishes the radiocommunications equipment that ships are required to carry, how the equipment must be maintained and used, and provides the context within which governments should establish the appropriate shore-based facilities to support GMDSS communications.⁴ SOLAS specifically requires all vessels flagged by signatories over 300 gross tons and certain passenger vessels, irrespective of size, that travel in international waters to carry distress and safety terminals that provide GMDSS services.⁵ Ships subject to SOLAS are obligated to carry certain core communications equipment to satisfy GMDSS requirements.

C. Iridium Recognized as GMDSS Provider by the IMO

At the time of the full implementation of the GMDSS in 1999,⁶ the only satellite system recognized by the IMO as being capable of satisfying the satellite ship terminal requirement was Inmarsat. And because of Inmarsat coverage limitations, this arrangement left parts of the Earth unserved.

With the support of the United States Coast Guard, the United States government's representative at IMO meetings, Iridium submitted an application to the Sub-Committee on Navigation, Communications and Search and Rescue ("NCSR") of the IMO to be recognized as a GMDSS service provider. NCSR conducted an initial review of Iridium's application and forwarded it to the IMO's Maritime Safety Committee ("MSC"). In November 2014, the MSC decided that the International Maritime Satellite Organization ("IMSO") should convene a group of experts to produce a technical and operational assessment of Iridium as a GMDSS mobile

³ *Id.*

⁴ *Id.*

⁵ International Convention for the Safety of Life at Sea, Chapter IV (1974).

⁶ The GMDSS was adopted as part of the 1988 amendments to SOLAS and was fully implemented in 1999.

satellite service provider. In March 2016, the NCSR provided that assessment. The NCSR noted the broad support among the delegations to incorporate Iridium as a mobile satellite GMDSS provider and reviewed the IMSO's expert report on the technical and operational assessment of the Iridium system with regard to GMDSS recognition. The NCSR also endorsed a list of conditions in accordance with Resolution A.1000(25),⁷ which permits Iridium to be granted recognition as a GMDSS provider.⁸

The U.S. Coast Guard led the U.S. delegation in presenting Iridium's case at the May 2018 MSC meeting. As the sponsor of Iridium's GMDSS application before the IMO, the U.S. Coast Guard played a critical role in helping Iridium gain recognition as the second GMDSS provider. The FCC also played a key role in supporting Iridium's case before the IMO. During the May 2018 meeting, the MSC recognized Iridium as a second provider of maritime distress and safety communications within the GMDSS.⁹ The MSC also agreed that Iridium and the United States will work with the IMSO, which will monitor progress in Iridium's implementation of the service.¹⁰

Iridium's GMDSS service will cover the entire globe, including Sea Area A4 where at present no satellite service authorized to provide GMDSS has coverage. Necessary amendments

⁷ IMO Resolution A.1001(25) and MSC.1/Circ.1414 detail the technical, operations and engineering requirements to be met by a provider seeking recognition as a GMDSS service provider. See Int'l Mar. Org., *Criteria for the Provision of Mobile Satellite Communication Systems in the Global Maritime Distress and Safety System (GMDSS)*, Res. A.1001(25) (Nov. 29, 2007); *Guidance to Prospective GMDSS Satellite Service Providers (Secretariat)*, Int'l Mar. Org. -Mar. Safety Comm., MSC.1/Circ.1414 (May 25, 2012).

⁸ *Sub-Committee on Navigation, Communications, Search and Rescue (NCSR)*, 3rd session, 29 February-4 March, Int'l Mar. Org. (Apr. 3, 2016), <http://www.imo.org/en/MediaCentre/MeetingSummaries/NCSR/Pages/NCSR,-3rd-session.aspx>.

⁹ See *Recognition of Maritime Mobile Satellite Services Provided by Iridium Satellite LLC.*, Int'l Mar. Org. – Maritime Safety Committee, Res. MSC.451(99) (adopted May 24, 2018), https://www.register-iri.com/wp-content/uploads/MSC_Resolution_45199.pdf.

¹⁰ *Id.*

to SOLAS to allow Iridium equipment to satisfy the GMDSS requirements will formally go into effect on January 1, 2020.¹¹ After this date, vessels equipped with Iridium ship terminals will be in compliance with SOLAS.

Since securing IMO recognition to provide GMDSS solutions, Iridium has been focused on efforts to implement the service. Today, Iridium equipment is already used on 50,000 vessels (20% of which are SOLAS vessels) for non-GMDSS safety and security purposes. In early 2020, the first Iridium-enabled GMDSS terminal will deliver new GMDSS voice and data solutions with improved Search & Rescue (“SAR”) functionalities in a single, small-form-factor maritime terminal enabled by its dependable, global network. While today GMDSS satellite users have access to Distress Alert and Maritime Safety Information, the Iridium-enabled GMDSS terminals will, unlike the legacy provider’s devices, also enable Distress Voice in the same small-form-factor terminal. Iridium expects its maritime terminals capable of GMDSS service to be available to vessel operators in early 2020.

D. The Commission Should Grant a Waiver Confirming That its Part 80 Rules Permit Vessels to Deploy Iridium GMDSS Service

Provisions of the SOLAS related to GMDSS are incorporated into Part 80 of the Commission’s rules, particularly Subpart W which includes detailed rules applicable to the GMDSS.¹² These rules were written when only Inmarsat had been recognized by the IMO as a GMDSS provider. It is appropriate, therefore, to waive certain of these rules to confirm individual ships may select Iridium terminals to communicate with the Iridium constellation for

¹¹ Maritime Safety Committee (MSC), 99th session (May 25, 2018), <http://www.imo.org/en/MediaCentre/MeetingSummaries/MSC/Pages/MSC-99th-session.aspx>.

¹² 47 C.F.R. Part 80, Subpart W.

GMDSS service.¹³ Those rules explicitly refer to “INMARSAT” in the context of satellite ship terminals, such that an operator equipped with an Iridium GMDSS terminal would appear to satisfy the GMDSS requirements from the perspective of the IMO, but one might argue would not comply with the Commission’s rules without a waiver.¹⁴

Similarly, other subparts of Part 80 set forth compulsory radiotelephone installation requirements for vessels. Certain provisions of other subparts may be satisfied by equipping vessels with a mobile satellite terminal, but only Inmarsat mobile terminals are identified. Other rules specifically mention Inmarsat’s spectrum for GMDSS operations. As with the subpart W rules, these rules do not reflect the current marketplace.

In 2016, the Radio Technical Commission for Maritime Service (“RTCM”) filed a petition for rulemaking to – in relevant part – update these Part 80 rules to accommodate new providers of GMDSS and compulsory radiotelephone installation requirements for small passenger boats.¹⁵ This petition remains pending before the Commission. While Iridium supports this petition and believes that ultimately the Commission should update its Part 80 rules to allow the provision of GMDSS service by competitive operators without waivers, in the interim the Commission’s grant of waivers would advance the public interest by facilitating competition as soon as practicable. Consequently, Iridium seeks waivers of the Commission’s

¹³ Following discussions with FCC staff, an Interpretive Ruling from International Bureau recognized that Iridium’s Part 25 space station and earth station authorizations already include authority for Iridium to provide GMDSS. Letter from Maureen McLaughlin, Vice President, Regulatory Affairs, Iridium Communications Inc. to Jose Albuquerque, Chief, Satellite Division, Int’l Bureau, FCC, IBFS File Nos. SAT-MOD-20131227-00148, SES-MOD-20 170413-00388, SES-MOD-20 170413-00389 (May 30, 2019); Letter from Jose Albuquerque, Chief, Satellite Division, Int’l Bureau, FCC, to Maureen McLaughlin, Vice President, Regulatory Affairs, Iridium Communications Inc., IBFS File Nos. SAT-MOD-20131227-00148, SES-MOD-20 170413-00388, SES-MOD-20 170413-00389 (July 16, 2019).

¹⁴ See, e.g., 47 CFR § 80.905(a)(3)(iii) (“If operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite...”); 47 CFR § 80.905(a)(4)(iii); 47 CFR § 80.1091(a)(1) (“...ships subject to this section must be provided with...[a]n INMARSAT ship earth station...”).

¹⁵ *Petition for Rulemaking to Update Part 80 of the Commission’s Rules*, RM-11765 (filed Feb. 16, 2016).

Part 80 rules, to the extent necessary, to allow vessels equipped with Iridium equipment to satisfy the GMDSS equipment requirements.

III. THE FCC SHOULD WAIVE CERTAIN PART 80 RULES TO CONFIRM ALL INTERESTED VESSELS MAY DEPLOY IRIDIUM-BASED TERMINALS FOR GMDSS SERVICE

To the extent necessary, the Commission should grant a waiver of the Part 80 rules that specifically mention Inmarsat as the sole provider of GMDSS. Such a grant will serve the public interest by bringing additional competition to the GMDSS and maritime marketplace and by providing ships with access to new safety of life services—including in areas where no satellite-based GMDSS exists today.

A. Grant of the Requested Waivers Will Serve the Public Interest

The Commission is authorized to waive its rules where the petitioner demonstrates good cause for such action.¹⁶ Good cause may be found where “particular facts would make strict compliance inconsistent with the public interest.”¹⁷ To satisfy the public interest requirement, “the waiver cannot undermine the purposes of the rule, and there must be a stronger public interest benefit in granting the waiver than in applying the rule.”¹⁸

In this case there is clearly good cause for a blanket waiver of certain of the Commission’s Part 80 rules for individual vessels. First, the waiver would be consistent with the

¹⁶ *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969) (“*Northeast Cellular*”).

¹⁷ *Northeast Cellular*, 897 F.2d at 1166; *see also ICO Global Communications v. FCC*, 428 F.3d 264, 269 (quoting *Northeast Cellular*); *WAIT Radio*, 418 F.2d at 1157-59; *Deere & Company Request for Limited Waiver of Part 15 Rules for Fixed White Space Device*, Order, 31 FCC Rcd 2131, 2134 ¶ 8 (OET 2016) (“*Deere Order*”) (quoting *Northeast Cellular*).

¹⁸ *Deere Order*, 31 FCC Rcd at 2134 ¶ 8; *see also WAIT Radio*, 418 F.2d at 1157 (stating that even though the overall objectives of a general rule have been adjudged to be in the public interest, it is possible that application of the rule to a specific case may not serve the public interest if an applicant’s proposal does not undermine the public interest policy served by the rule); *Kyma Medical Technologies Ltd.*, Order, 31 FCC Rcd 9705, 9707 ¶ 5 (OET 2016).

purpose of the GMDSS rules to specifically implement the requirements of SOLAS.¹⁹ Both the rules and SOLAS at present refer to “Inmarsat” as the network with which satellite equipment must communicate, consistent with the former reality that only Inmarsat was recognized by the IMO to provide GMDSS service. However, today the IMO has also recognized Iridium to provide GMDSS service, in recognition of which the IMO has adopted amendments to SOLAS that will go into effect in 2020 and will permit use of Iridium terminals for GMDSS. A waiver of Part 80, therefore, would be more consistent with the SOLAS than adherence to the existing rule.

Second, the waivers would be consistent with the broader purpose of the GMDSS and other maritime rules to promote maritime safety. For example, in addition to providing ships with an additional option for satellite communications when operating in Sea Area A3, Iridium’s unique satellite architecture allows it to provide GMDSS service anywhere in the world, including in the high latitudes of Sea Area A4 where previously no satellite GMDSS service was available. An Iridium terminal satisfies the intent of the Part 80 requirements to ensure communication capability on vessels for emergency purposes.

Finally, granting the requested waivers of Part 80 will bring competition to the GMDSS satellite market, which has long been a monopoly held by Inmarsat. This competition will enhance choice to mariners sailing in the world’s oceans and will drive innovation in GMDSS products.

These three factors demonstrate that there are strong public interest benefits to granting the requested waivers. While in the long term Iridium supports amendment to the Commission’s

¹⁹ *Amendment of Parts 13 and 80 of the Commission's Rules to Implement the Global Maritime Distress and Safety System (GMDSS) to Improve the Safety of Life at Sea*, 7 FCC Rcd 951 (1992).

Part 80 rules, there is no reason for the public to be deprived of the safety-of-life and competitive benefits that Iridium's service can provide during the pendency of such a rulemaking proceeding.

B. Part 80 Rule Waivers Are Appropriate to Confirm Ability of Vessels to Utilize Iridium GMDSS Service

Iridium requests blanket waivers on behalf of vessel operators of certain rules contained in the following Part 80 rule subparts are necessary for Iridium to provide GMDSS: Subparts C, E, G, H, I, S, and W.

1. Waivers of Certain Subpart W Rules

Subpart W of the Commission's rules specifically targets GMDSS operations. Iridium seeks waiver of those rules in Subpart W that require the use of equipment that communicates with Inmarsat satellites, specifically mention the frequency bands in which Inmarsat satellites operate, and limit GMDSS operations to Sea Areas A1, A2, and A3. As a non-geostationary orbit ("NGSO") satellite constellation with full global coverage, Iridium is capable of and will provide global GMDSS satellite service in Iridium's authorized spectrum. Specifically, Iridium requests waiver of the following Part 80, Subpart W rules:

47 CFR § 80.1069 – Maritime sea areas. Section 80.1069 defines a ship's area of operation and describes Sea area A3 as "[a]n area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available. Iridium seeks confirmation that the Sea Areas that are defined in this rule recognize that Sea Area A3 and Sea Area A4 are recognized as areas also covered by Iridium's NGSO satellites.

47 CFR § 80.1077 – Frequencies. This rule identifies the Inmarsat frequency bands available for GMDSS. Iridium seeks a waiver of Section 80.1077 to recognize that Iridium's

1618.725-1626.5 MHz frequency band, which it uses for uplink and downlink operations, is available for GMDSS.²⁰

Sections 80.1085, 80.1087, 80.1089, 80.1091, and 80.1093 as they pertain to Ship radio equipment. The Commission's rules allow for "partial or conditional exemptions" to be granted to "to individual ships from the requirements of §§80.1085, 80.1087, 80.1089, 80.1091, and 80.1093 provided: such ships comply with the functional requirements of §80.1081 and a showing is made that such an exemption will not have a material effect upon the general efficiency of the service for the safety of all ships."²¹ Consistent with this rule and as described in more detail below, Iridium seeks a blanket waiver for individual ships so that they may utilize an Iridium terminal in the same manner that the rules currently permit the use of an Inmarsat terminal.

47 CFR § 80.1085 – Ship radio equipment – General. Section 80.1085 contains the general equipment requirements for all ships subject to Subpart W. Subsection (a)(5) requires ships "engaged on voyages in any area of INMARSAT coverage in which an international NAVTEX service is not provided" to be provided with "a radio facility for reception of maritime safety information by the INMARSAT enhanced group calling system, *i.e.*, SafetyNet." Iridium seeks a waiver of this rule to allow ships that are operating in an area of Iridium coverage in which an international NAVTEX service is not provided to be able to use a radio facility for reception of maritime safety information by the Iridium system.

47 CFR §§ 80.1087, 80.1089 – Ship radio equipment. Sections 80.1087 and 80.1089 apply to ships that operate within specific sea areas at all times and requires that ships be

²⁰ Relatedly, Iridium seeks a waiver of Section 80.207 of the Commission's rules to allow Iridium to determine the class of emissions for GMDSS operations in the 1618.725-1626.5 MHz band.

²¹ 47 C.F.R. § 80.1071(a).

provided with a radio installation that is capable of initiating the transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating on a variety of platforms. The rules require that if a ship is operating in Inmarsat's coverage area, it must operate through the Inmarsat geostationary satellite service. This requirement may be fulfilled by an Inmarsat ship earth station capable of two-way communication. Iridium requests that the Bureau grant waiver of Section 80.1091(a)(1) such that ships otherwise subject to the rule may also satisfy the satellite ship earth station equipment requirement by including equipment capable of communications with the Iridium satellite system, operating in Iridium's global coverage area which provides all of the requisite capabilities under the rules.

47 CFR § 80.1091 Ship radio equipment – Sea Areas A1, A2, and A3. Section 80.1091(a)(1) of the Commission's rules also should be waived to confirm ships can use Iridium services. Section 80.1091(a)(1) specifies that ships subject to this rule section must be provided with "[a]n INMARSAT ship earth station" capable of providing various services.²² Iridium requests that the Bureau grant waiver of Section 80.1091(a)(1) such that ships otherwise subject to the rule may also satisfy the satellite ship earth station equipment requirement by including equipment capable of communications with the Iridium satellite system, which provides all of the requisite capabilities under the rules.²³

²² Specifically, these services include (i) Transmitting and receiving distress and safety data communications; (ii) Initiating and receiving distress priority calls; (iii) Maintaining watch for shore-to-ship distress alert, including those directed to specifically defined geographical areas; and (iv) Transmitting and receiving general radiocommunications, using either radiotelephony or direct-printing telegraphy. 47 C.F.R. § 80.1091(a)(1).

²³ Section 80.1099 requires ships to maintain a reserve source of energy to conduct distress and safety radiocommunications. This reserve source of energy is required to simultaneously power all of the installations required in Part 80 of the rules, including the Inmarsat ship earth station required by Section 80.1091. To the extent necessary, Iridium requests that the Bureau grant waiver of Section 80.1099 to include Iridium's GMDSS operations so vessel operators that select to use Iridium terminals will be required to have a reserve source of energy for installations required in Part 80 of the rules, including Iridium ship earth stations that are deployed consistent with a waiver of Section 80.1091.

47 CFR § 80.1093 Ship radio equipment – Sea Areas A1, A2, A3, and A4. Iridium seeks a waiver of Section 80.1093 which contains the additional equipment requirements for ships that sail in all four sea areas. Iridium is capable of providing GMDSS in all sea areas.

47 CFR § 80.1101 – Equipment Performance Standards. Section 80.1101 requires shipboard equipment to conform with certain performance specifications. Section 80.1101(c) includes the specific equipment that must conform and be tested against the performance standards, and names Inmarsat equipment and the performance standards to which each piece of equipment must comply. Iridium seeks a waiver of this rule so that its GMDSS equipment that is recognized by the IMO and IMSO to communicate with Iridium’s NGSO constellation in the GMDSS is confirmed as in compliance with the equipment performance standards set forth in Section 80.1101.

47 CFR § 80.1105 – Maintenance Requirements. Section 80.1105 sets forth requirements for maintaining distress and safety equipment aboard ships. Section 80.1105(g)(3) requires that ships equipped in accordance with 47 CFR § 80.1091 carry specific equipment, and includes an Inmarsat earth station as an option. Iridium requests a waiver of Section 80.1105(g)(3) to confirm that ship operators have the option to deploy an Iridium earth station when the ships are “equipped in accordance with §80.1089 for sea areas A1, A2, and A3.”

2. Waivers of Additional Part 80 Rules Related to GMDSS Operations

Additional subparts of Part 80 also discuss GMDSS requirements. To confirm that vessel operators are fully able to use all Iridium terminals for maritime safety services starting in 2020, Iridium requests a blanket waiver for vessel operators of the following additional Part 80 rules.

47 CFR § 80.93 – Hours of Service. Subpart C of Part 80 addresses operating requirements and procedures for maritime operations. Section 80.93 addresses the hours of service for stations whose hours are not continuous. Subsection 80.93(c)(2) specifies that

GMDSS ships must turn on their radios while ships are underway, and that if a ship has duplicate GMDSS installations for DSC or Inmarsat, only one of each must be turned on and keeping watch. Further, Subsection 80.93(d) applies to ships that are voluntarily fitting GMDSS subsystems and requires that if the ship has duplicate GMDSS installations for DSC or Inmarsat, only one must be turned on and keeping watch. Iridium requests a waiver of this rule to confirm that use of an Iridium terminal would satisfy its terms to the same extent as an Inmarsat terminal.

47 CFR § 80.102 – Radiotelephone Station Identification. Iridium also seeks a waiver of Section 80.102(e) which states that voice traffic in the Inmarsat system is closed to other parties except the two stations involved and that because identification is done automatically with the establishment of the call these stations need not identify themselves periodically during the communication. The Iridium system also possesses closed-communications characteristics, so Iridium requests a waiver of the identification requirement.

47 CFR § 80.905 – Vessel Radio Equipment. Section 80.905 of the Commission’s rules specifies radio equipment with which certain small passenger vessels must be equipped depending on how far they will travel from shore. Section 80.905(a)(3)(iii) specifies that vessels operating between 100 and 200 nautical miles from shore can satisfy part of the equipment requirement if they are “operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available” and equipped with “a GMDSS-approved Inmarsat ship earth station.” Section 80.905(a)(4)(iii) specifies that vessels operating more than 200 nautical miles from shore can satisfy part of the equipment requirement if equipped with “an INMARSAT B, C, M, or Fleet F77 ship earth station, or an INMARSAT A ship earth station if installed prior to February 12, 2004” and “operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting

is available.” By their terms these requirements are inapplicable to passenger vessels that have radio installations, such as Iridium radio installations as of January 1, 2020, that comply with SOLAS and Part II of Title III of the Act.²⁴ Out of an abundance of caution, Iridium seeks a waiver of the rules to confirm small passenger ships equipped with authorized Iridium equipment satisfy the requirements of Section 80.905.

3. Application of Other Part 80 Requirements to GMDSS Communications with the Iridium System

Part 80 imposes a number of operational requirements on vessels communicating with the Inmarsat system for GMDSS.²⁵ To the extent that the Commission grants the blanket waivers requested above, Iridium requests that the Commission apply these additional requirements equally to vessels equipped with Iridium GMDSS terminals.

²⁴ Subpart S of Part 80 states in relevant part that “[t]he provisions of Part III do not apply to vessels which are equipped with a radio installation for compliance with Part II of Title III of the Act, or for compliance with the Safety Convention, or to vessels navigating on the Great Lakes. 47 C.F.R. § 80.901.

²⁵ See 47 CFR §§ 80.310 (Watch required by voluntary vessels); 80.335 (Procedures for canceling false distress alerts); 80.409(e)(11) (Ship radiotelephone logs); 80.1123(a)(4) (Watch requirements for ship stations).

IV. CONCLUSION

Iridium is ready to bring increased competition and improved service to maritime safety. The Bureau should act swiftly and grant Iridium's waiver request to enable its GMDSS and additional maritime services.

Respectfully submitted,

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